

CLAIMS

1. A niobium capacitor comprising:
an anode with niobium as its main component; and
5 a dielectric layer formed on said anode,
wherein the junction region between said anode and
said dielectric layer contains manganese.
2. A niobium capacitor according to claim 1, wherein said
10 dielectric layer contains Nb_2O_5 .
3. A niobium capacitor according to claim 1, wherein said
anode has a surface layer with niobium oxide as its main
component.
- 15 4. A niobium capacitor according to claim 3, wherein said
niobium oxide is an interstitial compound.
5. A niobium capacitor according to claim 1, wherein said
20 anode has a surface layer with niobium nitride as its main
component.
6. A niobium capacitor according to claim 5, wherein said
niobium nitride is an interstitial compound.
- 25 7. A niobium capacitor according to claim 1, wherein said
anode is a porous sintered body of a compressed niobium-
containing powder.

8. A niobium capacitor according to claim 7, wherein said niobium-containing powder has a surface layer containing manganese.
- 5 9. A niobium capacitor according to claim 1, wherein said junction region contains NbO and Mn.
10. A niobium capacitor according to claim 1, wherein said junction region contains MnO₂.
- 10 11. A niobium capacitor according to claim 1, wherein said junction region contains 0.1 to 10wt% of manganese.
12. A niobium capacitor according to claim 1, wherein said dielectric layer is formed by anodic oxidation on said anode, and said junction region contains 0.1 to 3wt% of manganese.
- 15 13. A niobium capacitor according to claim 1, further comprising a solid electrolyte layer formed on said dielectric layer, said solid electrolyte layer consisting of MnO₂.
- 20 14. A method for manufacturing a niobium capacitor, comprising the steps of:
- 25 forming an anode containing niobium and manganese; and forming a dielectric layer on said anode.

15. A method for manufacturing a niobium capacitor according to claim 14, wherein the step of forming said anode involves forming a compressed molded product made of a niobium-containing powder containing in the surface layer thereof
5 0.1 to 10wt% of manganese, and then sintering said compressed molded product.

16. A method for manufacturing a niobium capacitor according to claim 14, wherein the step of forming said anode involves
10 forming a sintered body made of niobium-containing powder, and then doping said sintered body with manganese.

17. A method for manufacturing a niobium capacitor, comprising the steps of:
15 forming an anode containing niobium, and
 forming a dielectric layer containing niobium oxide as its main component and 0.1 to 10wt% of manganese.

18. A method for manufacturing a niobium capacitor according
20 to claim 17, wherein in the step of forming said dielectric layer, said anode undergoes anodic oxidation using a chemical conversion solution containing manganese ions.

19. A method for manufacturing a niobium capacitor according
25 to claim 17, wherein in the step of forming said dielectric layer, said anode is oxidized in a vapor-phase atmosphere containing manganese.

20. A method for manufacturing a niobium capacitor according to claim 17, wherein said anode contains any one of a niobium, niobium oxide and niobium nitride, as its main component.